

(19)



JAPANESE PATENT OFFICE

## PATENT ABSTRACTS OF JAPAN

(11) Publication number: 06325062 A

(43) Date of publication of application: 25 . 11 . 94

(51) Int. Cl.

G06F 15/28

(21) Application number: 05110788

(22) Date of filing: 12 . 05 . 93

(71) Applicant: OMRON CORP

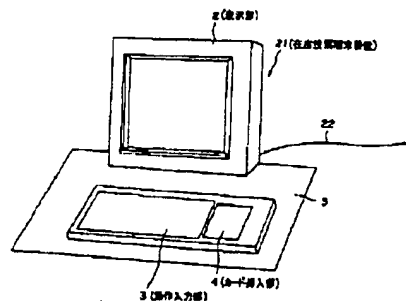
(72) Inventor:  
TODAKA HIDETO  
TANAKA TETSUO  
WATABE HIROO(54) ON-SEAT BETTING TERMINAL EQUIPMENT FOR  
ON-SEAT BETTING SYSTEM FOR PUBLIC RACE  
OR THE LIKE

(57) Abstract:

**PURPOSE:** To provide the various kinds of monitor information for betting on the seats of repective users by purchasing betting ticket cashlessly and paperlessly while being on their own seats in a cycling stadium, for example.

**CONSTITUTION:** When an ID card or prepaid card is inserted to a card inserting part 4, these magnetic data of the ID card or prepaid card are read by a card sending part 4, further, the betting of the race are estimated by the key input of an operation input part 3, the various kinds of data information required for purchasing the betting ticket are displayed on a display part 2, and the actual scene of the race are displayed by pictures.

COPYRIGHT: (C)1994,JPO



- (19) Japanese Patent Office (JP)  
(12) Kokai Patent Report (A)  
(11) Publication Number: H06-325062  
(43) Date of publication of application: 25-Nov-1994

(51) Int.Cl.<sup>5</sup>: G06F 15/28  
Internal code: B 8724-5L

Request for examination: Not requested  
Number of claims: 4  
Application type: OL  
Total number of pages: 7

- (21) Application number: H05-110788 (1993)  
(22) Date of filing: 12-May-1993

(71) Applicant: 000002945  
Omron Corporation  
10, Tsuchido-cho, Hanazono,  
Ukyo-ku, Kyoto-shi,  
Kyoto.

(72) Inventor: TODAKA Hideto  
Omron Corporation  
10, Tsuchido-cho, Hanazono,  
Ukyo-ku, Kyoto-shi,  
Kyoto.

(72) Inventor: TANAKA Tetsuo  
Omron Corporation  
10, Tsuchido-cho, Hanazono,  
Ukyo-ku, Kyoto-shi,  
Kyoto.

(72) Inventor: WATABE Hiroo  
Omron Corporation  
10, Tsuchido-cho, Hanazono,  
Ukyo-ku, Kyoto-shi,  
Kyoto.

(74) Representative: -WADA Shigenori

(54) Title of Invention: At-seat betting terminal for at-seat betting system at public races

(57) Abstract

Purpose: To allow cashless and paperless purchase of bets while seated at a cycle racing track or the like, and provide all users with betting information at their seats.  
Constitution: An ID card or a prepaid card is inserted into a card insertion unit 4, which reads magnetic data from the ID card or prepaid card. Keys on an operation input unit 3 are used to place bets on the race. A display unit 2 displays various data

and information required for the purchase of a betting ticket, as well as live images of the race.

### Claims

1. An at-seat betting terminal for an at-seat betting system at public races or the like, which is provided at the seats of each spectator watching the races to allow at-seat purchase of bets comprising:  
a display unit for displaying a live broadcast of the race and betting price information, an operating input unit for inputting data for placing bets, and  
a card insertion unit into which a card is inserted to purchase bets.
2. An at-seat betting terminal for an at-seat betting system at public races or the like as recited in claim 1, wherein said display unit comprises a liquid crystal screen.
3. An at-seat betting terminal for an at-seat betting system at public races or the like as recited in claim 1, wherein said card inserted into the card insertion unit is a prepaid card for temporary members, or an ID card for long-term members.
4. An at-seat betting terminal for an at-seat betting system at public races and the like as recited in claim 1, wherein each said at-seat betting terminal is connected to a central management apparatus via electric power supply lines.

### Detailed Description of the Invention

0001

#### Field of the Invention

The present invention relates to an at-seat betting terminal for use in an at-seat betting system at public races or the like. In particular, the invention relates to an at-seat betting terminal for an at-seat betting system at public races or the like, that enables bets to be placed while the user remains seated at a special spectator's seat at the race track.

0002

#### Description of the Related Art

Public races such as cycle races in accordance with the Bicycle Racing Act, or horse races in accordance with on the Horse Racing Act are generally known in the art, and spectators are able to place bets on each race.

0003

To purchase this type of bet, a spectator enters a selection on a mark sheet, for example, proceeds to a specified counter, and purchases a betting ticket.

0004

### SUMMARY OF THE INVENTION

In the conventional betting system mentioned above, a betting ticket is issued for each race, and when each race is over, a large number of losing betting tickets are scattered around the racing stadium, spoiling the overall appearance, and necessitating a significant amount of cleaning work.

0005

The purchase of betting tickets using existing betting systems, however, is troublesome because for each race, the spectator must go to a betting counter to purchase a betting ticket, leaving his seat and returning to his seat on each occasion.

0006

In the existing systems, monitor screens are arranged at various locations around the stadium so that races can be watched indoors. However, customers find it difficult to make use of the information displayed because the monitors are designed to be viewed while standing up, and there may be insufficient monitors available.

0007

These problems of the prior art have not yet been effectively solved. What is needed is an apparatus which is able to perform processes electrically, avoiding the problems associated with the purchase of a betting ticket and the operation of placing a bet.

0008

The aim of the present invention is to solve the above-mentioned problems of the prior art and provide an at-seat betting terminal for an at-set betting system at races or the like, which permits the paperless purchase of betting tickets at the spectator's seat, and allows spectators to watch the races live on individual monitor screens.

0009

According to a first aspect of the invention, an at-seat betting terminal is provided for an at-seat betting system at public races or the like, and installed at the seats of each spectator watching the races, to allow at-seat purchase of bets, the terminal comprising a display unit for displaying a live broadcast of the public race and betting price information, an operating input unit for inputting data for placing bets, and a card insertion unit into which a card is inserted to purchase a bet.

0010

According to a second aspect of the invention, the display unit comprises a liquid crystal screen.

0011

According to a third aspect of the invention, the card inserted into the card insertion unit is a prepaid card for temporary membership, or an ID card for long-term membership.

0012

According to a fourth aspect of the invention, each at-seat betting terminal is connected to a central management apparatus via electric power supply lines.

0013

#### Operation

The first aspect of the present invention provides an at-seat betting terminal for public races or the like, which is provided at the seats of each spectator watching the races, comprising a display unit which displays information required for the purchase of a bet, an operation input unit for inputting data for placing bets, and a card insertion unit into which a card is inserted to purchase a bet, whereby the spectator is able to place bets without moving from a seat provided with the at-seat betting terminal.

0014

The second aspect of the invention provides in addition a liquid crystal display showing betting data and information and live broadcasts of the races, so that monitor information can be obtained while seated.

0015

The third aspect of the invention allows bet payment by prepaid card or a predetermined ID card, so that no losing betting tickets are created, which would otherwise spoil the appearance of the stadium. Furthermore, since not cash is needed, theft prevention at the stadium can be enhanced.

0016

The fourth aspect of the invention provides connections from the terminals to a central management apparatus via electric power supply lines, so that information transfer can be performed at low cost, owing to the economical use of wiring.

0017

Embodiment

An embodiment of the at-seat betting terminal for an at-seat betting system for races will now be described in detail, with reference to the drawings. The description below relates to the use of the terminal in a bicycle race betting ticket purchasing system for a cycle racing stadium.

0018

Fig. 1 is a perspective view of the exterior of the at-seat betting terminal 21 of this embodiment. The at-seat betting terminal 21 is installed on a table 5 at each special spectator's seat provided at a stadium. Connections are made via electric power supply lines 22 to a central management apparatus 42 which will be described below (see Fig. 2).

0019

The at-seat betting terminal 21 as shown in Fig. 1 includes a display unit 2, an operation input unit 3, and a card input unit 4.

0020

The display unit 2 consists of a small-sized colour liquid crystal display device or the like, and displays predetermined betting information or live views of the race.

0021

The operation input unit comprises a numeric key-pad or the like for the input of the race number for which a betting ticket is to be purchased, the bet number and the purchase cost etc.

0022

The card insertion unit 4 includes a card insertion opening (not shown) for receiving a magnetic card or the like, and is provided with a means for reading from or writing to the inserted card.

0023

As described below, the card inserted into the card insertion unit 4 is a pre-specified prepaid card or ID card.

0024

The at-seat betting terminal for the cycle racing stadium in accordance with this embodiment, allows a spectator who is seated at a special seat to purchase a betting ticket from his seat. The spectator occupying the special seat may have either an annual membership or day membership.

0025

A spectator having annual membership enters into an annual contract with the race organiser and carries a member's card (described below as an annual membership ID card or simply as an ID card) provided with an identifying number. He is able to pay for betting tickets and receive payments for winning bets via a specified account at a nominated bank.

0026

The annual member is able to set a daily limit on funds available for betting. Proceeds from winning wagers can be used to increase bets on subsequent races.

0027

When the ID card is used on site to access the annual member's bank account, the member's betting limit information is received by the central management apparatus

(described below as the at-seat betting central management apparatus 42) installed on site, and the balance of available funds is automatically increased or decreased by a processing operation within the central management apparatus.

0028

An annual membership ID card in the form of a magnetic card may include the following magnetic data information:

- (a) ID card number
- (b) Annual membership/day membership identification code
- (c) Annual membership number
- (d) Date of the event
- (e) Balance of the member's nominated bank account
- (f) ID card secret code

0029

This magnetic data information enables an annual member to be identified, bets to be purchased and paid out in a cashless and paperless manner. If required, cash payments can also be made in accordance with the balance at the settlement time.

0030

Meanwhile, a day member who has entered the stadium and is seated at a special spectator seat purchases a prepaid card for a predetermined amount of money. The prepaid card (described hereafter as day membership prepaid card, or simply as a prepaid card) consists of a magnetic card which is valid for the day, and which can only be used for placing bets and receiving payments. By purchasing the prepaid card, the day member is registered, and can purchase betting tickets or receive payments.

0031

The betting limit for the day member is initially limited to the purchased funds on the prepaid card. Whenever payments are made on winning bets, the winning amount is automatically added, and the increased amount is available for betting on subsequent races.

0032

A day membership prepaid card in the form of a magnetic card may include the following magnetic data information:

- (a) Prepaid card number
- (b) Annual membership/day membership identification code
- (c) Day membership number
- (d) Date of the event
- (e) Cash balance of the prepaid card
- (f) Prepaid card secret code

0033

This magnetic data information enables a day member to be identified, bets to be purchased and paid in a cashless and paperless manner, and cash payments to be made in accordance with the balance at a settlement time.

0034

The above descriptions relate to an at-seat terminal 21, an annual membership ID card for use in the terminal, and a day membership prepaid card for use in the terminal, in accordance with an embodiment of the invention. The overall structure of an at-seat betting system in which the terminal is used will now be described with reference to Fig.2.

0035

The at-seat betting system comprises a pre-paid card issuing section 10, a special spectator seating section 20 and a central controller 40.

0036

The prepaid card issuing section 10 is provided near to the entrance to the racing stadium, and includes a plurality of prepaid card issuing terminals 11.

0037

The special spectator seating section 20 comprises a large number of at-seat betting terminals 21 arranged in groups of two, and a plurality of bet payment terminals 31.

0038

The central controller 40 comprises a totalizator system 41 for totalling betting data and processing winning payments, and an at-seat betting central management apparatus 42.

0039

The prepaid card issuing terminals 11, at-seat betting terminals 21, and bet payment terminals 31 are connected respectively to common electric supply lines 12, 22, 32 in a multidrop configuration. In order for the power supply lines 12, 22, 32 to function as transmission and reception media for power line communication, the system is provided with power supply signalling modems 13, 23, 33, and data multiplexers 14, 24, 34 for multiplexing or decoding data signals and video signals. Communication lines 51, 52 are connected respectively between the data multiplexers 14, 24, 34 and the at-seat betting central management apparatus 42, and between the at-seat betting central management apparatus 42 and the totalizator system 41.

0040

A video signal 53 from a video camera for live broadcast of the race is input to the data multiplexers 24 of the at-seat betting terminals 21.

0041

The at-seat betting central management apparatus 42 is connected to an existing bank network system 55 to allow payments to or from an annual member's nominated bank account. The at-seat betting central management apparatus 42 is provided with a means of communicating with the power supply signalling modems 13, 23, 33 via the data multiplexers 14, 24, 34 using a polling-selecting system.

0042

The data information that is output from the totalizator system 41 is input to the at-seat betting central management apparatus 42, which transmits card issuing data signals to the prepaid card issuing terminals 11, betting data signals to the at-seat betting terminals 21, and data signals required for bet payments to the bet payment terminals 31. The above description relates to the overall structure of the at-seat betting system in which the at-seat betting terminal 21 of this embodiment of the invention is used. The electrical configuration of the at-seat betting terminal 21 will now be described with reference to Fig. 3, some parts of which have also been mentioned in the description of Fig. 1.

0043

As already described, the at-seat betting terminal 21 allows an annual member having an ID card or a day member who has purchased a prepaid card to use the ID card or prepaid card to place bets.

0044

Fig. 3 shows the at-seat betting terminal 21 comprising a CPU 21a for integrated control of the operation of the entire terminal; a card insertion unit 4 which is connected to a bus 21b of the CPU 21a for reading from or writing to an ID card or prepaid card; an operation input unit 3 arranged centrally on a table and consisting of a keyboard 21 for inputting betting data; and a display unit using a small-sized colour liquid crystal screen to display various data in addition to video images based on the

video signal 53. A RAM 21f, a ROM 21g and a communication controller 21h are connected to the bus 21b. A connection is made to the power supply line 22 via the communication controller 21h.

0045

The card insertion unit 4 reads the magnetic data stored on an annual member's ID card or a day member's prepaid card.

0046

The operation input unit 3 allows bets to be placed very simply using the keys arranged on the keyboard 21d to select 'to win' bets, accumulators or other bet types.

0047

The display unit 2 is adapted to display betting information including betting odds, and to show the live broadcast of the races by means of the video signal 53.

0048

The RAM 21f stores data that need to be rewritten for various processing operations.

0049

The ROM 21f stores fixed operation or control data for the processing operations, and control programs for the CPU 21a.

0050

The above description relates to the electrical configuration of the at-seat betting terminal 21. The basic operation of the terminal will now be described in accordance with the flow diagram shown in Fig. 4.

0051

An annual member or a day member takes a seat at the at-seat betting terminal 21 and places his ID card or prepaid card into the card insertion unit 4 (step 401). The card insertion unit 4 automatically reads the magnetic data from the ID card or prepaid card (step 402), the magnetic data are transmitted to the at-seat betting central management apparatus 42 (step 403), and the transmission data are displayed on the display unit 2 (step 404).

0052

The at-seat betting central management apparatus accesses the annual member's nominated bank account via the bank network system 55, as already described, and receives information relating to the bank balance etc.

0053

The at-seat betting central management apparatus 42 then waits for a betting permission confirmation (step 405). The bet is placed by the annual or day member using the at-seat betting terminal 21 (step 406).

0054

This is performed, for example, by pressing keys on the operation input unit 3, and the details of the bet are indicated on the display unit 2 (step 407). When the operator confirms that the details of the bet are correct (step 408), the bet data are transmitted to the at-seat betting central management apparatus 42, and to the totalizator system 41, whereby the bet data are registered in the at-seat betting central management apparatus 42 and in the totalizator system 41 (step 409).

0055

When each race is finished, the betting data for each race is registered in the at-seat betting central management apparatus 42. When all the day's races are finished, payment data based on the day's betting results for the annual members are output to the bank network system 55.

0056



The above description relates to the process for the purchase of a bicycle race betting ticket. The account settlement process following the end of the race will now be described.

0057

When a race finishes, the winning amounts for that race are determined at the totalizator system 41.

0058

A day member who has placed a bet using a prepaid card inserts the card into a card insertion unit (not shown) of a bet payment terminal 31, which communicates with the at-seat betting central management apparatus 42, and pays out the winning sum.

0059

For those who have placed bets using an ID card, the person's bank balance is increased or decreased via the bank network system 55, based on the betting results that are registered in the central management apparatus 42.

0060

It is also possible for payments to be made using an ID card. In this case, the remaining balance information after the payment has been made is output to the bank network system 55.

0061

In the above-described embodiment, the communication system used in the prepaid card issuing terminals 11, the at-seat betting terminals 21, and the bet payment terminals 31 employs an electric power line communication technique whereby the electric power supply lines 12, 22, 32 that are used to for the power supply are also used as signal transmitting and receiving media. Although this system saves on wiring, the invention is not necessarily restricted to the use of electric power line communication, and a communication system based on conventional wiring may be employed.

0062

#### Effect of the Invention

As described above, the first aspect of the present invention provides an at-seat betting terminal at the seat of each spectator watching a race or the like. The terminal comprises a display unit for displaying the necessary information for the purchase of a bet, an operation input unit for inputting data for placing a bet, and a card insertion unit into which a card is inserted to place a bet. The spectator is therefore able to place bets without moving from a seat that is provided with the at-seat betting terminal.

0063

The second aspect of the invention provides a colour liquid crystal screen which displays the data necessary for placing bets, and shows live broadcasts of the races. The user is therefore able to obtain monitor information while seated.

0064

The third aspect of the invention allows bets to be purchased by prepaid card or a predetermined ID card, thus eliminating the creation of any losing betting tickets which would otherwise spoil the appearance of the racing stadium. Moreover, since it is not necessary to carry cash, theft prevention at the stadium can be enhanced.

0065

The fourth aspect of the invention provides connections from the terminals to the central management apparatus via electric power supply lines, so that information can be transferred at low cost owing to the economical use of wiring.

Brief Description of the Drawings

Fig. 1 is a perspective view of the general structure of the at-seat betting terminal in accordance with an embodiment of the present invention.

Fig. 2 is a block diagram of the overall structure of an at-seat betting system for a bicycle racing stadium, which makes use of the at-seat betting terminal of Fig. 1.

Fig. 3 is a block diagram of the detailed electrical configuration of the at-seat betting terminal of Fig. 1.

Fig. 4 is a flow diagram representing the bet-placing processes of the at-seat betting terminal.

Drawing references

2	Display unit
3	Operation input unit
4	Card insertion unit
10	Prepaid card issuing section
11	Prepaid card issuing terminal
12, 22, 32	Electric power supply line
13, 23, 33	Power supply signalling modem
14, 24, 34	Data multiplexer
20	Special spectator seating section
21	At-seat betting terminal
21a	CPU
21b	Bus
21d	Keyboard
21f	RAM
21g	ROM
21h	Communication controller
31	Bet payment terminal
40	Central controller
41	Totalizator system
42	At-seat betting central management apparatus
51, 52	Communication line
53	Video signal
54	Betting data signal
55	Bank network system

Translation of References in Fig. 4

## START

- 401 Is a card inserted?
- 402 Read magnetic data
- 403 Transmit magnetic data
- 404 Display data
- 405 Is betting permission confirmed?
- 406 Place bet
- 407 Display bet details
- 408 Are details of bet confirmed?

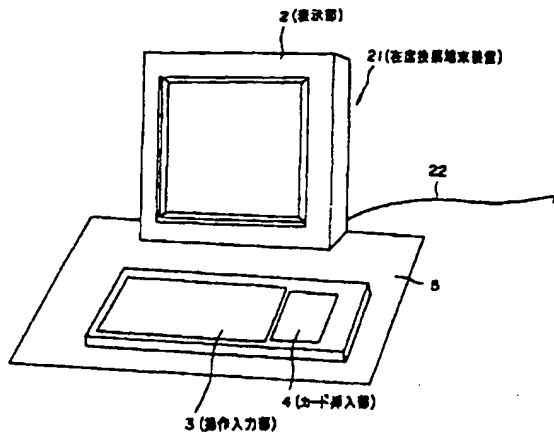
BEST AVAILABLE COPY

409 Register betting data  
END

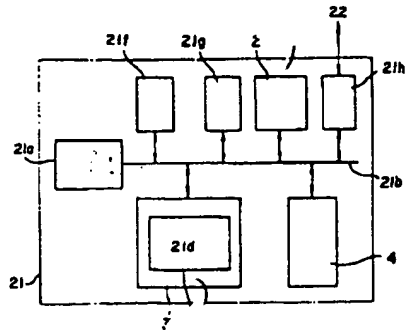
(6)

特開平6-325062

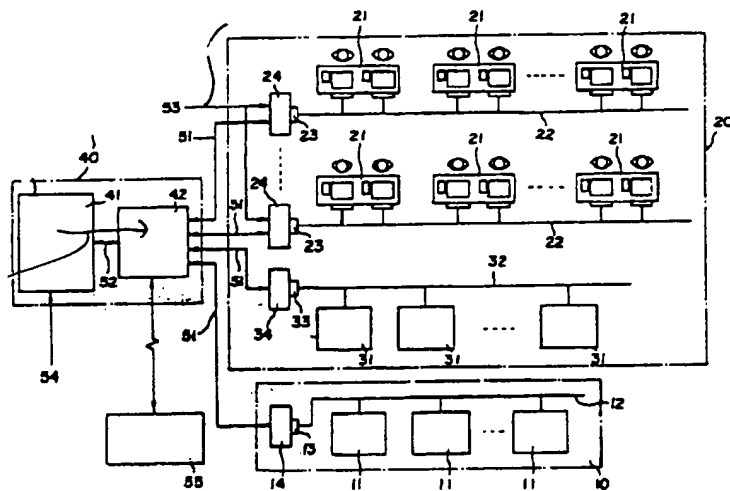
【図1】



【図3】



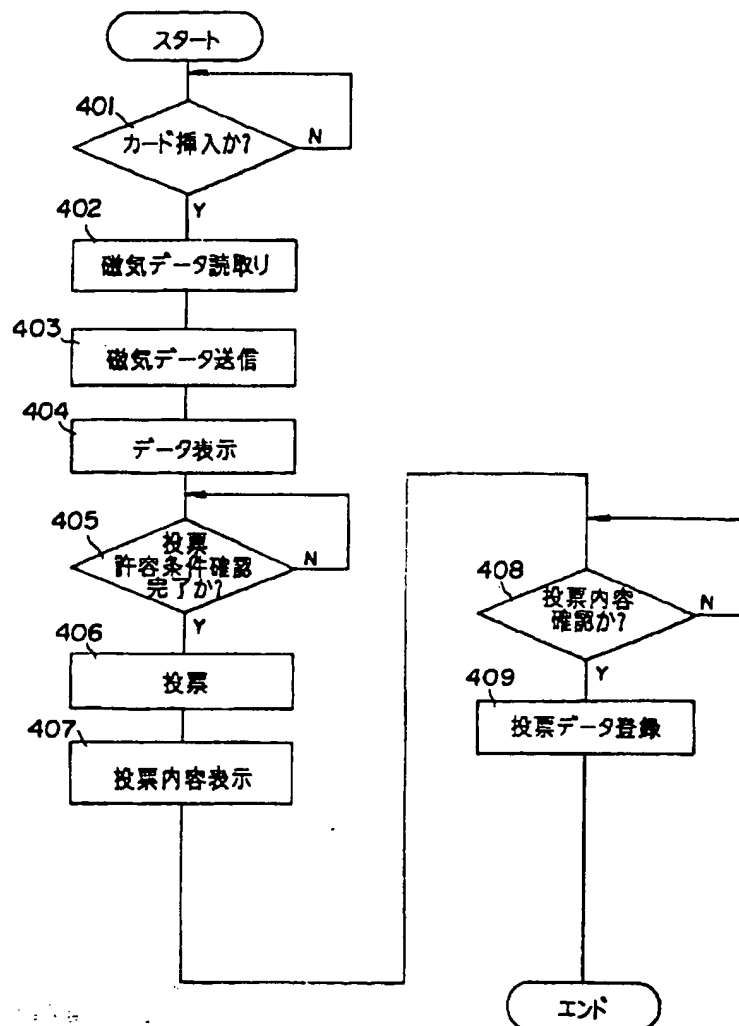
【図2】



(7)

特開平6-325062

【図4】



BEST AVAILABLE COPY

102

**LAWYERS' AND MERCHANTS' TRANSLATION BUREAU, INC.**  
Legal, Financial, Scientific, Technical and Patent Translations  
**11 BROADWAY**  
**NEW YORK, NY 10004**



**Certificate of Accuracy**

**TRANSLATION**

From

Japanese into English

STATE OF NEW YORK } s.s.:  
COUNTY OF NEW YORK

On this day personally appeared before me  
who, after being duly sworn, deposes and states: Elisabeth A. Lucas

That he is a translator of the Japanese and English languages by  
profession and as such connected with the **LAWYERS' & MERCHANTS'**  
**TRANSLATION BUREAU;**

That he is thoroughly conversant with these languages;

That he has carefully made the attached translation from the original document  
written in the Japanese language; and

That the attached translation is a true and correct English version of such original,  
to the best of his knowledge and belief.

**SUBSCRIBED AND SWORN TO BEFORE ME**  
**THIS**

**JAN 29 2002**

*Susan Tapley*  
Susan Tapley  
Notary Public, State of New York  
No. 01TA4999804  
Qualified in Queens County  
Certificate filed in New York County  
and Kings County  
Commission Expires July 27, 2002

TRANSLATION FROM JAPANESE

- (19) JAPANESE PATENT OFFICE (JP)  
(12) Unexamined Patent Gazette (A)  
(11) Unexamined Patent Application (Kokai) No. 6-325062  
[i.e., 1994-325062]  
(43) Disclosure Date: 25 November 1994

---

	Classification	Internal Office
(51) Int. Cl. <sup>5</sup> :	Symbols:	Registration Nos.: F I
G06F 15/28	B	8724-5L

Request for Examination: Not yet submitted Number of  
Claims: 4

(Total of 7 pages [in original])

- 
- (21) Application No.: 5-110788 [i.e., 1993-110788]  
(22) Filing Date: 12 May 1993

(71) Applicant: 000002945  
Omron Corp.  
10-banchi, Hanazono Tsuchido-cho, Ukyo-ku,  
Kyoto City, Kyoto Prefecture

(72) Inventor: Hideto Todaka  
C/o Omron Corp.  
10-banchi, Hanazono Tsuchido-cho, Ukyo-ku,  
Kyoto City, Kyoto Prefecture

(72) Inventor: Tetsuo Tanaka  
C/o Omron Corp.  
10-banchi, Hanazono Tsuchido-cho, Ukyo-ku,  
Kyoto City, Kyoto Prefecture

(72) Inventor: Hiroi Watanabe  
C/o Omron Corp.  
10-banchi, Hanazono Tsuchido-cho, Ukyo-ku,  
Kyoto City, Kyoto Prefecture

(74) Agent: Masanori Wada, Patent Attorney

---

(54) [ Title of the Invention ]      **On-seat Betting Terminal  
Device in On-seat Betting System for Public Race or the Like**

(57) [ Summary ]

[ Object ]    To make it possible to purchase tickets  
cashlessly and paperlessly while seated as well as to make it  
possible to obtain various monitor information to bet from an  
individual's seat at, for example, a cycling stadium.

[ Constitution ]    When an ID card or a prepaid card is  
inserted into a card insertion part 4, magnetic data of the  
ID card or prepaid card is read by a card sending part 4  
[sic]; further, prediction betting is made on races using key  
input of an operation input part 3, various data information  
and the like required for betting ticket purchasing is  
displayed on a display part 2, and the actual state of the  
race is displayed using images.

[figure]

2 (Display part)

21 (on-seat bet terminal device)

4 (card insertion part)

3 (operation input part)

[end figure]



[ Claims ]

[ Claim 1 ] An on-seat betting terminal device in an on-seat betting system for a public race or the like characterized by the fact that it is installed at seats of spectators who view a public race or the like so that tickets can be purchased from a seat; and  
it comprises at least a display part for displaying an actual state of a public race, sales information, and the like,  
an operation input part for inputting data for ticket betting, and  
a card insertion part into which a card for ticket purchases is inserted.

[ Claim 2 ] An on-seat betting terminal device in an on-seat betting system for a public race or the like recited in Claim 1 characterized by the fact that a display part is made from a liquid crystal screen.

[ Claim 3 ] An on-seat betting terminal device in an on-seat betting system for a public race or the like recited in Claim 1 characterized by the fact that a card for inserting into a card insertion part is a prepaid card for temporary members or an ID card for long-term members.

[ Claim 4 ] An on-seat betting terminal device in an on-seat betting system for a public race or the like recited in Claim 1 characterized by the fact that each on-seat betting

terminal device is connected to a central management system by electrical wiring.

[ Detailed Description of the Invention ]

[ 0001 ]

[ Technological Field of the Invention ] The present invention relates to an on-seat betting terminal device in an on-seat betting system for a public race or the like, and relates more specifically to an on-seat betting terminal device in an on-seat betting system for a public race or the like made such that ticket betting is possible while seated at a special spectator's seat or the like at a public race arena or the like.

[ 0002 ]

[ Prior Art ] In general, bicycle races based on cycling techniques, horse races based on horseracing techniques, etc., are known as this type of public race, and the spectators are able to make ticket bets for each race.

[ 0003 ] For the purchase of tickets in such instances, for example, spectators note the prescribed items on a marking sheet, go to a prescribed window, and purchase betting tickets.

[ 0004 ]

[ Problems the Invention is Intended to Solve ]

Nevertheless, the aforementioned conventional betting systems have the problems that betting tickets are issued each race, so a large number of losing betting tickets are generated when each race ends, those tickets are scattered widely in the race area, marring the overall aesthetic beauty, and thus requiring a large labor in the cleaning operation.

[ 0005 ] Further, with the current system, there is the problem that one must go to the betting window each race to purchase a betting ticket, and one has to travel the interval between the spectator's seat and the betting window for each race, so the purchasing of betting tickets is troublesome.

[ 0006 ] Further, with the current system, there is the problem that while television monitors are provided at various locations in the race arena such that it is possible to view the race indoors when in progress, etc., these must be watched while standing, and the number of sets is not adequate, so the monitor information is not readily utilized by the visitor.

*what apperion the television monitors provided  
at race tracks.*

[ 0007 ] While there were the above such problems conventionally, no effective countermeasures which could correct these deficiencies have yet been taken, and there

has been a demand for the actualization of a device which can, for example, electronically process ticket betting purchases and related operations based on the bet while avoiding problems such as those aforementioned.

[ 0008 ] The invention takes into consideration conventional problems such as those mentioned above, and with that object in mind, offers an on-seat betting terminal device in an on-seat betting system for a public race or the like which makes it possible to purchase betting tickets while seated without paper and such that each person has a screen monitor such that the actual state of the race or the like can be viewed.

[ 0009 ]

[ Means to Solve the Problems ] In order to achieve the aforementioned object, the invention in Claim 1 is characterized by the fact that an on-seat betting terminal device in an on-seat betting system for a public race or the like is installed at seats of spectators who view a public race or the like so that tickets can be purchased from a seat; and comprises at least a display part for displaying an actual state of a public race, sales information, and the like, an operation input part for inputting data for ticket betting, and a card insertion part into which a card for ticket purchases is inserted.

[ 0010 ] The invention in Claim 2 is characterized by the fact a display part is made from a liquid crystal screen.

[ 0011 ] The invention in Claim 3 is characterized by the fact that a card for inserting into a card insertion part is a prepaid card for temporary members or an ID card for long-term members.

[ 0012 ] The invention in Claim 4 is characterized by the fact that each on-seat betting terminal device is connected to a central management system by electrical wiring.

[ 0013 ]

[ Operation ] In the invention of Claim 1, an on-seat betting terminal device is installed at the seat of each spectator viewing the public race or the like, and further, the terminal device has a display part for displaying the various information necessary for purchasing a ticket, an operation input part for inputting data for ticket betting, and a card insertion part for inserting a card for ticket betting, so ticket betting actions are possible while seated in a spectator seat at which an on-seat betting terminal device is installed.

[ 0014 ] In the invention of Claim 2, various data information for ticket betting and the actual state of the race in progress, etc., are displayed as the liquid crystal

screen has a display function, and monitor information can be obtained while seated in one's seat.

[ 0015 ] In the invention of Claim 3, a ticket can be purchased with a prepaid card or prescribed ID card, so losing betting tickets are not generated at all, and the aesthetic beauty in the race arena is not marred. Also, because there is no need to walk around carrying cash, theft prevention on the premises is superior.

[ 0016 ] In the invention of Claim 4, each betting terminal is connected to a central management device with electrical wiring, so information can be sent and received at a low cost with little wiring.

[ 0017 ]

[ Working Examples ] A detailed description of an embodiment of an on-seat betting terminal device in an on-seat betting system for a public race or the like pertaining to the invention is given below, with reference to the drawings. The description below is made where the present device is applied to a bicycle ticket purchasing system at a bicycle racetrack.

[ 0018 ] Fig. 1 is a perspective view indicating an external configuration of an on-seat betting terminal device 21 in the present embodiment; the on-seat betting terminal device 21 is installed on a table 5 at each spectator seat provided at

special spectator seats at the bicycle racetrack, and is connected to a central management device 42 (refer to Fig. 2) described below with an electrical wire 22.

[ 0019 ] As indicated in this same figure, an on-seat betting terminal device 21 comprises a display part 2, an operation input part 3 and a card insertion part 4.

[ 0020 ] A display part 2 is made of a small color liquid crystal display device or the like, and displays prescribed betting information, the actual state of the race in progress, or the like.

[ 0021 ] The operation input part 3 is made up of a numeric pad or the like; the race number for the bicycle ticket one wants to purchase, the predicted ticket number, the purchase amount and the like are inputted.

[ 0022 ] A magnetic card or the like having a card insertion entry not illustrated is inserted into a card insertion part 4; the card insertion part 4 has functions such as for reading/writing to the inserted card.

[ 0023 ] As described below, there is a prescribed prepaid card or ID card for inserting into the card insertion part 4.

[ 0024 ] With an on-seat betting terminal device for a bicycle racing arena according to this embodiment, fans

seated in special spectator seats can purchase, etc., predictive betting tickets while seated, and fans admitted to the special spectator seats are divided into annual members and current day fans as follows.

[ 0025 ] Specifically, the annual members make an annual agreement with the bicycle race organizer, thereby coming to possess a member card (hereinafter, referred to as an annual member ID card or simply an ID card) having an identification number, and can have settlement of purchase money for betting tickets and credit of dividends due to prediction success made with a specified savings account at a specified bank.

[ 0026 ] The betting limit amount for one day for these annual members is established beforehand within a prescribed limit, and if there is a credit of dividends decided when a prediction is successful, that additional amount can be used in subsequent races.

[ 0027 ] When an ID card is used in a venue, the member's savings account is accessed, and the betting limit amount information of the member is read into a central management device (an on-seat betting central management device 42 described below) provided in the venue, and the deposit balance is automatically adjusted through processing by the central management device.



[ 0028 ] Examples of magnetic data information provided on an ID card of an annual member using a magnetic card include

- (a) an ID card number
- (b) an annual member/current day member identification code
- (c) an annual member number
- (d) the current event date
- (e) the cash balance in the specified savings account of the member
- (f) a secret code for the ID card.

[ 0029 ] Identification as an annual member, purchase and settlement of betting tickets without using cash or paper as well as accounting for receiving cash from the balance at the time of accounting according to need are possible using such magnetic data information.

[ 0030 ] The current day members can purchase a prepaid card (hereinafter, referred to as current day member prepaid cards or simply as prepaid cards) for betting/credit comprising a magnetic card valid for that day only when entering for seating at special spectator seats, and can thereby be registered as a member, and credit of dividends and purchase of betting tickets is possible with the prepaid card.

[ 0031 ] Accordingly, the betting limit amount for current day members is initially limited to the prepaid card purchase amount, and then, if there is credit for dividends when a prediction is successful, the credit amount is automatically tacked on, and the additional amount can be used in subsequent races.

[ 0032 ] Examples of magnetic information provided on the prepaid card of a current day member using a magnetic card includes

- (a) a prepaid card number
- (b) an annual member/current day member identification code
- (c) a current day member number
- (d) the current event date
- (e) the cash balance of the prepaid card
- (f) a secret code for the prepaid card.

[ 0033 ] This magnetic data information makes identification as a current day member, purchase and settlement of betting tickets without using cash or paper, and accounting for receiving cash from the balance at the time of accounting are possible.

[ 0034 ] An outline of the on-seat betting terminal device 21 according to the present embodiment as well as annual member ID cards and current day member prepaid cards provided for using the on-seat betting terminal device 21 was provided above; a description of the entire construction of an on-seat betting system to which the present terminal device is applied is given next while referring to Fig. 2.

[ 0035 ] The on-seat betting system comprises a prepaid card issuing part 10, a special spectator seat part 20 and a central control part 40.

[ 0036 ] The prepaid card issuing part 10 is provided proximate or the like to the entrance of the bicycle racetrack and has multiple prepaid card issuing terminal devices 11.

[ 0037 ] The special spectator seat part 20 has multiple on-seat betting terminal devices 21 made of two units per set and similarly a plurality of betting accounting terminal devices 31.

[ 0038 ] The central control part 40 is equipped with a totalizator system 41 for tabulating betting data, processing dividend credits, and the like, and an on-seat betting central management device 42.

[ 0039 ] These prepaid card issuing terminal devices 11, on-seat betting terminal devices 21 and betting accounting terminal devices 31 are connected in a multidropped configuration to power wires 12, 22 and 32 for supplying power; data multiplexing devices 14, 24 and 34 for multiplexing and decoding various data signals and video signals as well as power superimposed modems 13, 23 and 33 are provided to make power line communication possible using the power lines 12, 22 and 32 as sending and receiving media; communication circuits 51 and 52 connect the data multiplexing devices 14, 24 and 34 with the on-seat betting central management device 42 and the on-seat betting central management device 42 with the totalizator system 41 such that mutual communication is possible respectively.

[ 0040 ] Video signals 53 from video cameras, etc., for the actual state in progress are inputted to the data multiplexer device 24 for the on-seat betting terminal devices 21.

[ 0041 ] The on-seat betting central management device 42 is connected to an existing bank network system 55 for settlement of specified savings accounts of annual members, credits of decided dividends, and the like; and a function is provided for the on-seat betting central management device 42 to make communication with the power superimposed modems 13,

23 and 33 through the data multiplexing devices 14, 24 and 34 with a polling selection method possible.

[ 0042 ] The on-seat betting central management device 42 receives input of data information outputted from the totalizator system 41, and transmits various data signals for prepaid card issuance to the prepaid card issuing terminal devices 11, various betting data signals to the on-seat betting terminal devices 21, and various data signals required for betting accounting to the betting accounting terminal devices 31. The above is a description of the entire construction of an on-seat betting system in which an on-seat betting terminal device 21 is applied according to the present embodiment; a description of an electrical construction of the on-seat betting terminal device 21 is given next while referring to Fig. 3, though this partially overlaps with the description in Fig. 1 already made.

[ 0043 ] As described above, the on-seat betting terminal device 21 makes betting using an ID card or prepaid card possible for annual members with an ID card or current day members who have purchased a prepaid card.

[ 0044 ] In Fig. 3, an on-seat betting terminal device 21 comprises a CPU 21a with overall control of the operation of the overall device, a card insertion part 4 for reading and writing to ID cards and prepaid cards and is connected to a

bus 21b of the CPU 21a, an operation input part 3 comprising a keyboard 21d for inputting betting and other data information which takes up the center part of the tabletop, and a display part 2 for displaying various data using a small color liquid crystal screen and displaying images from video signals 53; a RAM 21f, a ROM 21g and a communication control part 21h are connected to the bus 21b which is connected to the power line 22 by the communication control part 21h.

[ 0045 ] The card insertion part 3 reads magnetic data stored on annual member ID cards or current day member prepaid cards.

[ 0046 ] The operation input part 3 is set beforehand to a betting type or the like such as a single win type or a series win type using the key arrangement on the keyboard 21d, for example, and the betting is thereby made extremely simply and easy using key input with the keyboard 21d.

[ 0047 ] The display part 2 is constructed such that various betting information including odds information and the actual state in progress using the video signals 53 can be displayed.

[ 0048 ] The RAM 21f stores reloadable data or the like required for various processing.

[ 0049 ] The ROM 21g stores various operation and control data and the like used in a fixed manner for various processing, etc., as well as control programs or the like for the CPU 21a.

[ 0050 ] The above was an electrical construction of the on-seat betting terminal device 21; next is a description of its basic operation according to a flowchart indicated in Fig. 4.

[ 0051 ] Annual members and current day members take their seats in front of a prescribed on-seat betting terminal device 21, and when the ID card or prepaid card is charged in the card insertion part 4 (Step 401), the magnetic data of the ID card or prepaid card is automatically read by the card insertion part 4 (Step 402), this magnetic data information is transmitted to the on-seat betting central management device 42 (Step 403), and this transmission data is displayed on the display part 2 (Step 404).

[ 0052 ] Through this processing, as already described, the on-seat betting central management device 42 accesses the specified savings account of the annual member through the bank network system 55 and reads the savings balance data or other information into the device.

[ 0053 ] After a wait for betting acceptance condition confirmation to be completed by the on-seat betting central

management device 42 (Step 405), the on-seat betting terminal device 21 is used for betting by the annual member or current day member (Step 406).

[ 0054 ] This is done with a key operation or the like of the operation input part 3 and the betting details at that time are displayed on the display part 2 (Step 407). When the operator performs verification processing of the betting details (Step 408), the betting data is transmitted to the on-seat betting central management device 42, is further transmitted to the totalizator system 41, and is registered to the on-seat betting central management device 42 and the totalizator system 41 (Step 409).

[ 0055 ] Each time a race ends, the betting data for that race is registered on the on-seat betting central management system 42, and for annual members, when all the races for one day end, the accounting data based on that day's betting results is outputted to the bank network system 55.

[ 0056 ] The above is the processing when purchasing bicycle tickets; next is a brief description of the accounting processing after a race ends.

[ 0057 ] When a race ends, the winning dividends for that race are already decided by the totalizator system 41.



[ 0058 ] Accordingly, credit amounts for current day members who have bet with prepaid cards are calculated through a communication control with the on-seat betting central management device 42 by the insertion of the prepaid card in a card insertion part not illustrated of a betting accounting terminal device 31.

[ 0059 ] When betting with ID cards, the betting results are registered to the central management device 42, so the account balance of each person is finally adjusted based on the betting results through the bank network system 55.

[ 0060 ] It is also possible to make it so that ID cards can be used for accounting processing; in such a case, the balance information after the accounting is outputted to the bank network system 55.

[ 0061 ] In the aforementioned embodiment, a power line communication method with the power lines 12, 22 and 32 as the sending and receiving media to provide energy is adopted for the communication method for the prepaid card issuing terminal devices 11, the on-seat betting terminal devices 21 and the betting accounting terminal device 31, and decreased wiring is achieved, but there is no limitation to adopting such a power line communication method; a communication method using conventional wiring is also possible.

[ 0062 ]

[ Effect of the Invention ] As described above, in the invention of Claim 1, an on-seat betting terminal device is installed at the seat of each spectator viewing the public race or the like, and further, the terminal device has a display part for displaying the various information necessary for purchasing a ticket, an operation input part for inputting data for ticket betting, and a card insertion part for inserting a card for ticket betting, so ticket betting actions are possible while seated in a spectator seat at which an on-seat betting terminal device is installed.

[ 0063 ] In the invention of Claim 2, various data information for ticket betting and the actual state of the race in progress, etc., are displayed as the color liquid crystal screen has a display function, and monitor information can be obtained while seated in one's seat.

[ 0064 ] In the invention of Claim 3, a ticket can be purchased with a prepaid card or prescribed ID card, so losing betting tickets are not generated at all, and the aesthetic beauty in the race arena is not marred. Also, because there is no need to walk around carrying cash, theft prevention on the premises is superior.

[ 0065 ] In the invention of Claim 4, each betting terminal is connected to a central management device with electrical wiring, so information can be sent and received at a low cost with little wiring.

[ Brief Description of the Figures ]

[ Figure 1 ] A perspective view indicating an outline of a construction of an on-seat betting terminal device to which an embodiment of this invention was applied.

[ Figure 2 ] A block view indicating an entire construction where the on-seat betting terminal device indicated in Fig. 1 was applied to an on-seat betting system in a bicycle racetrack.

[ Figure 3 ] A block view indicating a detailed electrical construction of the on-seat betting terminal device indicated in Fig. 1.

[ Figure 4 ] A flowchart describing a betting processing operation of an on-seat betting terminal device.

[ Key ]

- 2: A display part
- 3: An operation input part
- 4: A card insertion part
- 10: A prepaid card issuing part
- 11: A prepaid card issuing terminal device
- 12, 22, 32: Electrical wires

13, 23, 33: Power overlay modems

14, 24, 34: Data multiplexing devices

20: A special spectator seats part

21: An on-seat betting terminal device

21a: A CPU

21b: A bus

21d: A keyboard

21f: A RAM

21g: A ROM

21h: A communication control part

31: A betting accounting terminal device

40: A central control part

41: A totalizator system

42: An on-seat betting central management device

51, 52: Communication circuits

53: Video signals

54: Betting data signals

55: A bank network system

[Fig. 1]

2 (Display part)

21 (On-seat betting terminal device)

3 (Operation input part)

4 (Card insertion part)

[Fig. 2]

[Fig. 3]

[Fig. 4]

Start

401 Is card inserted?

402 Magnetic data read

403 Magnetic data transmission

404 Data display

405 Is the betting acceptance condition confirmation  
complete?

406 Bet

407 Bet detail display

408 Are the bet details verified?

409 Betting data recorded

End

## BEST AVAILABLE COPY

(19) 日本国特許庁 (JP)

(12) 公開特許公報 (A)

(11) 特許出願公開番号

特開平6-325062

(43) 公開日 平成6年(1994)11月25日

(51) Int.Cl.<sup>1</sup>

G 0 6 F 15/28

識別記号

庁内整理番号

B 8724-5L

FI

技術表示箇所

審査請求 未請求 請求項の数 4 OL (全 7 頁)

(21) 出願番号 特願平5-110788

(22) 出願日 平成5年(1993)5月12日

(71) 出願人 000002945

オムロン株式会社

京都府京都市右京区花園土堂町10番地

(72) 発明者 戸高 秀人

京都府京都市右京区花園土堂町10番地 オ

ムロン株式会社内

(72) 発明者 田中 哲男

京都府京都市右京区花園土堂町10番地 オ

ムロン株式会社内

(72) 発明者 渡部 広夫

京都府京都市右京区花園土堂町10番地 オ

ムロン株式会社内

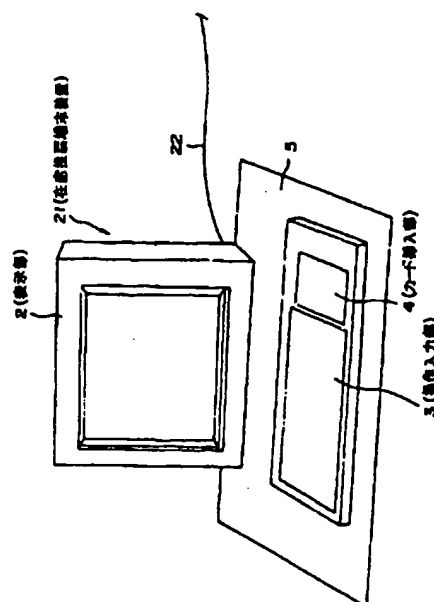
(74) 代理人 弁理士 和田 成則

(54) 【発明の名称】 公営競技等の在席投票システムにおける在席投票端末装置

(57) 【要約】

【目的】 例えば競輪場において、在席のままで、くじのキャッシュレス、ペーパーレスでの購入を可能にし、かつ各人の座席で投票のための各種モニタ情報を得ることができるようになる。

【構成】 カード挿入部4にIDカードまたはプリペイドカードが挿入されると、これらIDカードまたはプリペイドカードの磁気データがカード送込部4によって読取られ、さらに操作入力部3のキー入力によってレースに対する予想投票を行ない、表示部2に投票券購入に必要な各種データ情報等を表示し、かつレース状況を映像表示する。



## 【特許請求の範囲】

【請求項1】 公営競技等を観覧する各観覧者の席上に設置され、在席にてくじの購入ができる公営競技等の在席投票システムにおける在席投票端末装置において、公営競技の実況やくじ発売情報等を表示する表示部と、くじ投票用のデータを入力する操作入力部と、くじ購入用のカードが挿入されるカード挿入部と、を少なくとも備えることを特徴とする公営競技等の在席投票システムにおける在席投票端末装置。

【請求項2】 表示部が、液晶画面による表示部であることを特徴とする請求項1に記載の公営競技等の在席投票システムにおける在席投票端末装置。

【請求項3】 カード挿入部に挿入されるカードが一時会員用のプリペイドカードか長期会員用のIDカードであることを特徴とする請求項1に記載の公営競技等の在席投票システムにおける在席投票端末装置。

【請求項4】 各在席投票端末装置は電力線によって中央管理装置に接続されていることを特徴とする請求項1に記載の公営競技等の在席投票システムにおける在席投票端末装置。

## 【発明の詳細な説明】

【0001】

【産業上の利用分野】この発明は、公営競技等の在席投票システムにおける在席投票端末装置に関し、さらに詳しくは、公営競技場等の特別観覧席等において、在席したままでくじの投票ができるようにした公営競技等の在席投票システムにおける在席投票端末装置に関する。

【0002】

【従来技術】一般に、この種の公営競技としては、自転車競技法に基づいた競輪レース、競馬法に基づいた競馬レース等が知られており、観覧者は各レース毎にくじの投票を行うことができる。

【0003】ところで、この場合のくじの購入は、観覧者が例えばマークシートに所定の事項を記載して、所定の窓口に行き、投票券を購入するというものである。

【0004】

【発明が解決しようとする課題】しかしながら、上記従来の投票システムの場合、各レース毎に投票券を発行しているので、各レースの終了毎に、数多くのはずれ投票券が発生し、これが競技場内に広く散乱して全体的な美観を損ない、またその清掃作業にも多大の労力を要するという問題点があった。

【0005】また、現在のシステムでは各レース毎に投票窓口に行って投票券を購入しなければならないので、1レース毎に観覧席と投票窓口との間を行き来しなければならず、投票券の購入がわずらわしいという問題点があった。

【0006】さらに、現在のシステムでは、レース中継等が屋内でも観戦できるよう、モニタテレビが競技場の各所に配設されているが、これらは立ったままで見なけ

ればならず、またその数も充分ではないので、入場者にとってはモニタ情報が利用しづらいという問題点があった。

【0007】従来においては、上記の如き問題点があったが、現在までのところ、これらの欠点を是正し得る有効な対策は未だ講じられてはならず、くじ投票券の購入および投票に基づく関連操作を上記の如き問題点を回避しつつ、例えば、電氣的に処理し得る装置の実現が要望されていた。

【0008】この発明は、上記の如き従来の課題に鑑みてなされたもので、その目的とするところは、在席のままで、かつペーパーレスでの投票券の購入を可能にし、さらに、一人一人がモニタ画面を有してレースの実況等を観戦し得るようにした公営競技等の在席投票システムにおける在席投票端末装置を提供することにある。

【0009】

【課題を解決するための手段】上記目的を達成するために、請求項1の発明は、公営競技等を観覧する各観覧者の席上に設置され、在席にてくじの購入ができる公営競技等の在席投票システムにおける在席投票端末装置において、公営競技の実況やくじ発売情報等を表示する表示部と、くじ投票用のデータを入力する操作入力部と、くじ購入用のカードが挿入されるカード挿入部と、を少なくとも備えることを特徴とする。

【0010】また、請求項2の発明は、表示部が、液晶画面による表示部であることを特徴とする。

【0011】そして、請求項3の発明は、カード挿入部に挿入されるカードが一時会員用のプリペイドカードか長期会員用のIDカードであることを特徴とする。

【0012】さらに、請求項4の発明は、各在席投票端末装置は電力線によって中央管理装置に接続されていることを特徴とする。

【0013】

【作用】請求項1の発明では、公営競技等を観覧する各観覧者の席上に在席投票端末装置が設置されて、さらにこの端末装置はくじ購入に際して必要な各種情報が表示される表示部と、くじ投票用のデータを入力する操作入力部と、くじ投票用のカードが挿入されるカード挿入部を有するので、在席投票端末装置が設置された観覧席では居ながらにしてくじの投票行為ができる。

【0014】また、請求項2の発明では、液晶画面での表示機能の付与で、くじ投票のための各種データ情報およびレースの実況中継等が表示され、自分の席で座ったままモニタ情報を得ることができる。

【0015】そして、請求項3の発明では、プリペイドカードや所定のIDカードによってくじの購入ができるので、はずれ投票券はいっさい発生せず、競技場内の美観を損うことはない。また、現金を持ち歩く必要がないので、場内での防犯性に優れる。

【0016】さらに、請求項4の発明では、各投票端末

は電力線によって中央管理装置に接続されているので、省配線で低コストに情報の授受ができる。

【0017】

【実施例】以下、この発明に係る公営競技等の在席投票システムにおける在席投票端末装置の実施例につき、図面を参照して詳細に説明する。なお、以下の説明では、本装置を競輪場における車券購入システムに適用した場合について説明する。

【0018】図1は本実施例における在席投票端末装置21の外観構成を示す斜視図であるが、この在席投票端末装置21は、競輪場の特別観覧席に設けられた各観覧席のテーブル5上に設置され、後述する中央管理装置42（図2参照）に電力線22を介して接続されている。

【0019】在席投票端末装置21は同図に示す如く、表示部2、操作入力部3およびカード挿入部4を備えている。

【0020】ここで、表示部2は小型のカラー液晶表示装置等よりなり、所定の投票情報やレースの実況中継等が表示される。

【0021】また、操作入力部3はテンキー等よりなり、自分の購入したい車券のレース番号、予想くじ番号、購入金額等が入力される。

【0022】そして、カード挿入部4は図示しないカード挿入口を有して磁気カード等が挿入されるもので、挿入されたカードのリード・ライト機能等を有している。

【0023】なお、カード挿入部4に挿入されるカードとしては、後述するように、所定のプリペイドカードやIDカードがある。

【0024】ところで、この実施例による競輪競技場の在席投票端末装置は、特別観覧席に在席するファンが、在席したままで予想投票券の購入等が行なえるもので、この特別観覧席に入場するファンについては、次のように、年間会員と当日会員とに区分される。

【0025】すなわち、前者の年間会員は、競輪主催者との間に年間契約を交わすことにより、識別番号の付与されたメンバーズカード（以下、年間会員IDカード、もしくは単にIDカードという）を所持し、投票券の購入金の決済および予想的中による配当金の払戻しが、指定した銀行における特定の預金口座によって可能な会員である。

【0026】そして、この年間会員における1日の投票限度額については、あらかじめ所定限度内に設定され、予想的中して確定配当金の払戻しがあるときには、この増加分について次レース以降に利用可能となる。

【0027】これは、会場内においてIDカードの使用があると会員の預金口座にアクセスして会員の投票限度額情報が場内に設けられた中央管理装置（後述する在席投票中央管理装置42）に取り込まれ、以後、この中央管理装置内の処理によって預金残高が自動的に増減するようになっているからである。

【0028】なお、ここでの磁気カードを用いた年間会員IDカードに付与される磁気データ情報としては、例えば、

- (a) IDカード番号
  - (b) 年間会員/当日会員の識別コード
  - (c) 年間会員番号
  - (d) 当該開催日の日付け
  - (e) 会員の指定預金口座の現金残高
  - (f) IDカードの暗証コード
- 等がある。

【0029】そして、これらの各磁気データ情報によって、年間会員としての識別、キャッシュレス、ペーパーレスでの投票券の購入と決済、および必要に応じて清算時点での残高による現金の受取り清算が可能になる。

【0030】一方、後者の当日会員は、特別観覧席への入場に際して、当日限り有効な磁気カードからなる投票/払戻専用のプリペイドカード（以下、当日会員プリペイドカード、もしくは単にプリペイドカードという）を所定金額で購入することによって会員登録され、このプリペイドカードによって投票券の購入および配当金の払戻しが可能な会員である。

【0031】従って、この当日会員における投票限度額については、初めはプリペイドカード購入金額内に限定され、つぎに、予想的中して配当金の払戻しがあるときは、その払戻し金額が自動的に上乗せされ、この増加分については次レース以降に利用可能となる。

【0032】なお、ここでの磁気カードを用いた当日会員プリペイドカードに付与される磁気情報としては、例えば、

- (a) プリペイドカード番号
  - (b) 年間会員/当日会員の識別コード
  - (c) 当日会員番号
  - (d) 当該開催日の日付け
  - (e) プリペイドカードの現金残高
  - (f) プリペイドカードの暗証コード
- 等がある。

【0033】そして、ここでもまた、これらの各磁気データ情報によって、当日会員としての識別、キャッシュレス、ペーパーレスでの投票券の購入と決済、および清算時点での残高による現金の受取り清算が可能になる。

【0034】以上が、本実施例に係る在席投票端末装置21およびこの在席投票端末装置21の利用に供される年間会員用IDカードおよび当日会員用プリペイドカードの概要であるが、次に図2を参照しながら、本端末装置が適用される在席投票システムの全体構成を説明する。

【0035】この在席投票システムは、プリペイドカード発行部10と、特別観覧席部20と中央制御部40より構成されている。

【0036】ここで、プリペイドカード発行部10は競



輪場の入場口付近等に設けられるもので、複数台のプリペイドカード発行端末装置11を有している。

【0037】また、特別観覧席部20は2台1組からなる多数の在席投票端末装置21および同じく複数台の投票清算端末装置31を有している。

【0038】また、中央制御部40は、投票データの集計、配当金の払戻し処理等を行うトータリゼータシステム41および在席投票中央管理装置42を備えて構成される。

【0039】そして、これらの各プリペイドカード発行端末装置11、在席投票端末装置21、投票清算端末装置31は、共に給電のための電力線12、22、32にマルチドロップ形式で接続されると共に、各電力線12、22、32を送、受信媒体として利用した電力線通信を可能にするために、電源重畳モデム13、23、33、および各種データ信号およびビデオ信号の多重化、復号化用のデータ多重化装置14、24、34とを設けてあり、さらにこれらの各データ多重化装置14、24、34と在席投票中央管理装置42との間、および在席投票中央管理装置42とトータリゼータシステム41との間は、それぞれ相互通信が可能なように通信回線51、52で接続されている。

【0040】なお、在席投票端末装置21のデータ多重化装置24には、実況中継用のビデオカメラ等からのビデオ信号53が入力される。

【0041】また、在席投票中央管理装置42は、年間会員の指定預金口座に対する決済、確定配当金の払戻し等のために、既存の銀行ネットワークシステム55に接続されており、かつこの在席投票中央管理装置42には、各データ多重化装置14、24、34を介して各電源重畳モデム13、23、33に対し、ポーリングセレクション方式での通信を可能にする機能が付与されている。

【0042】そして、この在席投票中央管理装置42は、トータリゼータシステム41から出力される各種データ情報を入力して、各プリペイドカード発行端末装置11に対しては、プリペイドカード発行のための種々のデータ信号を、各在席投票端末装置21に対しては、さまざまな投票データ信号を、各投票清算端末装置31に対しては、投票清算上必要とされる種々のデータ信号をそれぞれ送信している。以上が、本実施例の在席投票端末装置21が適用される在席投票システムの全体構成であるが、次に在席投票端末装置21の電気的な構成をすでに述べた図1の説明と一部重複する部分があるが、図3を参照しながら説明する。

【0043】在席投票端末装置21は、先にも述べたように、IDカードを有する年間会員およびプリペイドカードを購入した当日会員を対象にして、IDカードおよびプリペイドカードを用いた投票を可能とするものである。

【0044】図3において、在席投票端末装置21は装置全体の動作を統括制御するCPU21aと、このCPU21aのバス21bに接続された、IDカード、プリペイドカードの読取り、書き込みをするカード挿入部4と、卓上の中央部を占めて投票等のデータ情報を入力するためのキーボード21dからなる操作入力部3と、小型のカラー液晶画面を用いて各種データの表示およびビデオ信号53による映像の表示をする表示部2とを備えており、さらにバス21bには、RAM21f、ROM21g、通信制御部21hが接続され、通信制御部21hによって電力線22に接続されている。

【0045】ここで、カード挿入部3は、年間会員のIDカードまたは当日会員のプリペイドカードに記憶されている磁気データを読取る。

【0046】また、操作入力部3は、例えばそのキーボード21dにおけるキー配列によって予め単勝式、連勝複式等の投票種別等を設定しておくことにより、キーボード21dからのキー入力によって、投票を極めて簡単かつ容易に行ない得る。

【0047】また、表示部2においては、オッズ情報を含む各種投票情報や、ビデオ信号53を利用した実況中継を表示できるよう構成されている。

【0048】さらに、RAM21fは、各種処理のために必要とされる書き替え可能なデータ等を記憶している。

【0049】ROM21gは、同様に、これらの各処理等のために固定的に用いられる各操作、制御データ等、およびCPU21aの制御プログラム等を記憶している。

【0050】以上が在席投票端末装置21の電気的な構成であるが、次にその基本動作を図4に示すフローチャートによって説明する。

【0051】年間会員または当日会員が所定の在席投票端末装置21の前に着座して、IDカードまたはプリペイドカードをカード挿入部4に装入すると（ステップ401）、カード挿入部4では、まずIDカードまたはプリペイドカードの各磁気データが自動的に読取られて（ステップ402）、これらの各磁気データ情報が在席投票中央管理装置42に送信され（ステップ403）、かつこれら送信データが表示部2にも表示される（ステップ404）。

【0052】なお、この処理によって、すでに述べたように在席投票中央管理装置42は銀行ネットワークシステム55を介して年間会員の指定預金口座にアクセスし、預金残高データ等の情報を装置内に取り込む。

【0053】そして、在席投票中央管理装置42での投票許可条件確認完了を待つて（ステップ405）、在席投票端末装置21を用いることで、年間会員および当日会員による投票が行われる（ステップ406）。

【0054】これは操作入力部3のキー操作等によって

7

なされるが、このときの投票内容は表示部2にも表示される(ステップ407)。ここで、投票内容について操作者の確認処理があると(ステップ408)、該投票データは、在席投票中央管理装置42に送信され、さらに、トータリゼータシステム41にも送信されて、在席投票中央管理装置42およびトータリゼータシステム41に登録される(ステップ409)。

【0055】なお、1レース終了するごとに各レースの投票データは在席投票中央管理装置42に登録され、さらに年間会員については、1日の全レースが終了すると当日の投票結果に基づく清算データが銀行ネットワークシステム55側に出力されることになる。

【0056】以上が車券購入時の処理であるが、つぎに、レース終了後の清算処理について略述する。

【0057】レースが終了するとトータリゼータシステム41では、既に該当レース的中配当金が確定されている。

【0058】従って、プリペイドカードで投票した当日会員は、プリペイドカードを投票清算端末装置31の図示しないカード挿入部に挿入することによって在席投票中央管理装置42との間で通信制御することによって、払い戻し金が清算される。

【0059】また、IDカードによって投票したものは、その投票結果が中央管理装置42に登録されているので、該投票結果に基づいて、最終的に銀行ネットワークシステム55を介して各人の口座残高が増減することになる。

【0060】なお、IDカードを利用した清算処理ができるようにすることもでき、この場合は清算後の残高情報が銀行ネットワークシステム55に出力されることになる。

【0061】なお、上記実施例では、各プリペイドカード発行端末装置11、在席投票端末装置21、投票清算端末装置31における通信方式として、共に給電のための電力線12、22、32を送、受信媒体とする電力線通信方式を採用し、省配線化を達成しているが、必ずしも、このような電力線通信方式の採用にのみ限定されるものではなく、通常配線による通信方式を採用することも可能である。

【0062】

【発明の効果】以上説明したように、請求項1の発明では、公営競技等を観覧する各観覧者の席上に在席投票端末装置が設置されて、さらにこの端末装置はくじ購入に際して必要な各種情報が表示される表示部と、くじ投票用のデータを入力する操作入力部と、くじ投票用のカードが挿入されるカード挿入部を有するので、在席投票端末装置が設置された観覧席で居ながらにしてくじの投票行為ができる。

8

【0063】また、請求項2の発明では、カラー液晶画面での表示機能の付与で、くじ投票のための各種データ情報およびレースの実況中継等が表示されるので、自分の席に座ったままモニタ情報を得ることができる。

【0064】そして、請求項3の発明では、プリペイドカードや所定のIDカードによってくじの購入ができるので、はずれ投票券はいっさい発生せず、競技場内の美観を損うことはない。また、現金を持ち歩く必要がないので、場内での防犯性に優れる。

【0065】さらに、請求項4の発明では、各投票端末は電力線によって中央管理装置に接続されているので、省配線で低コストに情報の授受ができる。

【図面の簡単な説明】

【図1】この発明の一実施例を適用した在席投票端末装置の概略構成を示す斜視図。

【図2】図1に示した在席投票端末装置が競輪場における在席投票システムに適用された場合の全体構成を示すブロック図。

【図3】図1に示した在席投票端末装置の電氣的な詳細構成を示すブロック図。

【図4】在席投票端末装置の投票処理動作を説明するフローチャート。

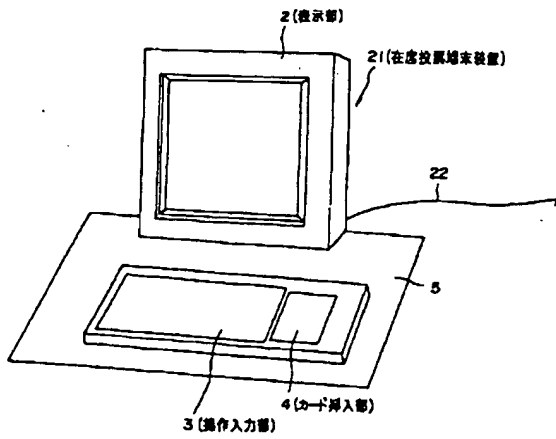
【符号の説明】

- 2 表示部
- 3 操作入力部
- 4 カード挿入部
- 10 プリペイドカード発行部
- 11 プリペイドカード発行端末装置
- 12, 22, 32 電力線
- 13, 23, 33 電源重畳モデム
- 14, 24, 34 データ多重化装置
- 20 特別観覧席部
- 21 在席投票端末装置
- 21a CPU
- 21b バス
- 21d キーボード
- 21f RAM
- 21g ROM
- 21h 通信制御部
- 31 投票清算端末装置
- 40 中央制御部
- 41 トータリゼータシステム
- 42 在席投票中央管理装置
- 51, 52 通信回線
- 53 ビデオ信号
- 54 投票データ信号
- 55 銀行ネットワークシステム

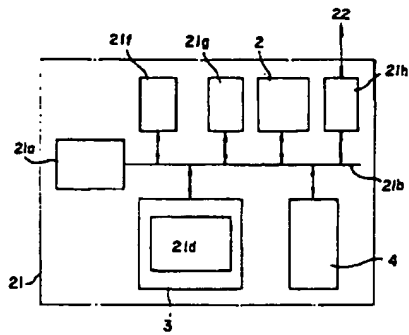
(6)

特開平6-325062

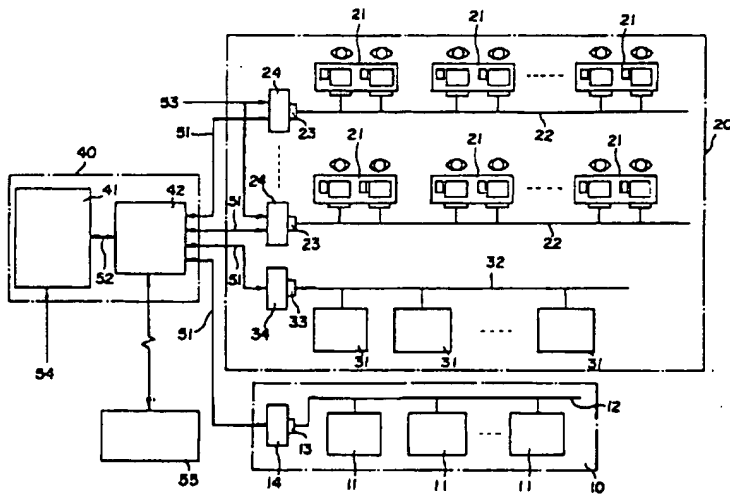
【図1】



【図3】



【図2】



(7)

特開平6-325062

【図4】

